

REMARKS

I. On-Sale Bar Rejection

In the Office action it was alleged that Exhibit A evidences a sale on June 24, 1999, because the quote did not detail a method or manner in which Etec would control the activities of the recipient of the quote once the subject of the quote was delivered, the MEBES-X System. Applicant respectfully contends that Exhibit A evidences experimental use of the MEBES-X System. Specifically, Exhibit A makes clear that test of the MEBES-X System would occur in accordance with the MEBES-X Preproduction System Acceptance Test Procedure, Etec Document Number 0900-3417C [hereinafter referred to as the TEST PROCEDURE].

Specifically, on page 14 of the TEST PROCEDURE, tests were undertaken to ensure composite placement accuracy, composite overlay accuracy, composite critical dimension line-width uniformity, line edge roughness and composite critical dimension line-width mean-to-target parameters are satisfied. Considering that the claimed invention reduced placement errors by abrogating dimensional changes in the plate, it becomes clear that the performance of the claimed invention was also the subject of this test. As one can see from this, testing was systematic to ensure that the claimed invention would perform in accordance with its intended environment.

In addition, the Exhibit A makes clear that should the MEBES-X System fail to satisfy the TEST PROCEDURE further refinement of the MEBES-X System may cease (see Paragraph 1.4, page 3 of Exhibit A). Furthermore, the quotation makes clear that payment for the MEBES-X System may terminate should the MEBES-X System fail to satisfy the TEST PROCEDURE

(see paragraph 2.0, page 4 of Exhibit A). As is customary in the industry, upon termination of payment, the MEBES-X System would be returned to Etec, with the original sums paid to Etec being returned to the recipient of the Exhibit, e.g., Intel. As a result, it becomes clear that acceptance of the terms recited in Exhibit A by the recipient of the same, would not pass title in the MEBES-X System to the recipient. Rather, the effect of Exhibit A was to offer use of Etec's intellectual property embodied in the MEBES-X System in furtherance of experimentation. Thus, there could be no offer for sale that constitutes a bar within the meaning of 35 USC section 102(b). See Mas-Hamilton Group v. La Gard, Inc., 156 F.3d 1206, 1216 (Fed. Cir. 1998, citing Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1267 (Fed. Cir. (1986)). Based upon the foregoing, Applicant respectfully contends that the on-sale bar rejection has been traversed.

II. REJECTION OF THE CLAIMS

In the Office action claims 1, 10, 23 and 28 were rejected under 35 U.S.C. section 103(a) as allegedly being obvious over Lee in view of McCullough. Under Section 103(a), the scope and content of the prior art are examined to determine whether differences between the prior art and the claims at issue would have been obvious to a person of ordinary skill in the art. Applicant has amended claims 1, 10, 23 and 28 to more clearly define the invention in view of the prior art.

A. Claim 1

Specifically, claim 1 was amended to define a method as including, inter alia, placing the workpiece proximate to the heated body to effectuate thermal transfer between the body and the workpiece and achieve thermal equilibrium between the body and the workpiece and evacuating the chamber to a predetermined pressure level, with the second distance being established to minimize thermal fluctuations in the workpiece during evacuation of the chamber to the predetermined pressure level.

As admitted in the Office action, Lee fails to discuss thermal management of a reticle. McCullough, on the other hand, teaches away from Applicant's claimed invention by advocating minimizing, if not preventing, thermal changes in the reticle. (See Column 4, lines 44-48). To that end, McCullough teaches concurrently cooling and heating a reticle to prevent thermal changes in the reticle temperature. In this manner, McCullough teaches away from Applicant's claimed invention of having a workpiece reach thermal equilibrium with a heated body. As a result, Applicant respectfully contends that a *prima facie* case of obviousness is not present with respect to claim 1, as amended.

B. Claims 10, 23 and 28

Claim 10 has been amended to include, inter alia, evacuating, after increasing the distance, the chamber to a second pressure level, less than the first pressure level to reduce thermal variations due to evacuating the chamber to the second pressure level. Claim 23 has been amended to include, inter alia, evacuating, after the workpiece reaches the second distance, the processing environment to minimize adiabatic thermal transfer between the heated body and the

workpiece during evacuation of the chamber. Claim 28 has been amended to include, inter alia, evacuating, after the workpiece reaches the third distance, the processing environment to minimize adiabatic thermal transfer between the heated body and the workpiece during evacuation of the chamber.

As discussed above, McCullough advocates minimizing, if not preventing, thermal changes in the reticle. (See Column 4, lines 44-48). To that end, McCullough teaches concurrently cooling and heating a reticle to prevent thermal changes in the reticle temperature so that thermal transfer between the reticle and a heated body is constant, i.e., never minimized.

Applicants, on the other hand, advocate increasing thermal temperature of the workpiece. (See paragraph 37 of the substitute specification). Specifically, in that paragraph, the operation of the Rapid Thermal Condition Plate (RTCP) is described. In operation, the workpiece is placed in airlock chamber 72 at step 149 so as to be spaced-apart from RTCP 104 a distance in excess of 0.75 inch. At step 150, airlock chamber 72 is pressurized to a level of approximately one (1) Torr. At step 152, nitrogen fills airlock chamber 72 to a pressure level in the range of 25 to 100 Torr, with 50 Torr being preferred. At step 154, lift platform 92 positions workpiece 32 proximate to plane B, which is in the range of 0.001" to 0.009" from RTCP 104 with 0.003" being preferred to achieve efficient thermal transfer between RTCP 104 and workpiece 32 primarily through conduction. It was found that gas conduction heat transfer at 50 Torr is about ten (10) times faster than radiative heat transfer.

An important feature of the claimed invention, however, concerns minimizing thermal fluctuations resulting from adiabatic thermal transfer between workpiece 32 and RTCP. It was found that maintaining workpiece 32 in close proximity with RTCP 104 results in a greater amount of adiabatic heat transfer due to the Bernoulli effect during evacuation of the chamber. The claimed invention overcomes this problem by increasing the spacing between workpiece 32 and RTCP 104 before evacuating chamber 72. This was found to reduce the Bernoulli effect and, therefore adiabatic heat transfer. This facilitates maintaining the workpiece 32 at equilibrium when transferred to write chamber 24.

Considering that the function of McCullough would be destroyed were thermal transfer between the reticle and the heated body minimized, Applicant respectfully contends that there is no suggestion to modify McCullough to provide Applicant's claimed invention.

Moreover, none of the remaining prior art overcomes the deficiencies of McCullough. As a result, Applicant respectfully contends that a *prima facie* case of obviousness is not present with respect to the amended claims.

III. THE NON-OBVIOUSNESS OF THE DEPENDENT CLAIMS

Considering that the dependent claims include all the features of the independent claims from which they depend, these claims are patentable to the extent that the independent claims are patentable. Therefore, Applicants

respectfully contend that, based on the foregoing arguments, a *prima facie* case of obviousness has not been established with respect to the dependent claims.

Furthermore, any amendments to the independent claims are not considered necessitated by the prior art. These amendments are merely to make the invention more definite and to ensure that the claims comport with the provisions of 35 U.S.C. section 112, second paragraph.

Applicant respectfully requests examination of the application in view of the amendments and remarks contained herein. A notice of allowance is earnestly requested.

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to : MAIL STOP NON FEE Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Signed: *Jennifer Shaw*

Typed Name: Jennifer Shaw

Date: *May 27, 2003*

Respectfully submitted,



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